

IN THE CLAIMS

Please cancel claim 1-18 without disclaimer or prejudices as to the subject matter of claims 1-18.

Please add claims 19-36 as follows:

19. (NEW) A method of controlling power to a high-intensity-discharge lamp, said method comprising:
determining a voltage across the lamp and a current through the lamp;
approximating a power to the lamp based on a sum of the lamp voltage
and the lamp current; and
regulating power to the lamp based on a comparison of the approximated lamp power and a predetermined value.

20. (NEW) The method of claim 19, wherein a determination of the lamp voltage and the lamp current includes:
scaling the lamp voltage; and
converting the lamp current into a representative voltage.

21. (NEW) The method of claim 20, wherein an approximation of the lamp voltage includes:
summing the scaled lamp voltage and the representative voltage.

22. (NEW) The method of claim 19, wherein a comparison of the approximated lamp power and the predetermined value includes:
determining whether the approximated lamp power is greater or less than the predetermined value.

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23. (NEW) A system of controlling power to a high-intensity-discharge lamp, said system comprising:

a voltage sensor for determining a voltage across the lamp;
a current sensor for determining a current through the lamp; and
a control circuit operatively connected to said current sensor and said voltage sensor, said control circuit for approximating a lamp power based on a sum of the lamp voltage and the lamp current, comparing the approximated lamp power against a desired level, and regulating the power to the lamp based on the comparison.

24. (NEW) The system of claim 23, wherein said current sensor includes a resistor connected in series with the lamp.

25. (NEW) The system of claim 23, further comprising:
a signal conditioning circuit for scaling and filtering an output of said current sensor.

26. (NEW) The system of claim 23, wherein said voltage sensor includes a voltage divider network shunting the lamp.

27. (NEW) The system of claim 26, wherein said voltage divider includes a voltage-limiting network to reduce a starting voltage effect on the power approximation.

28. (NEW) The system of claim 23, wherein said control circuit includes:
a summing circuit for approximating the power supplied to the lamp by adding the output from said voltage sensor and a representative voltage determined from an output of said current sensor.

29. (NEW) The system of claim 28, wherein said summation circuit includes a filter to average the summed voltages over time. ?

30. (NEW) The system of claim 28, wherein said summation circuit includes a plurality of rectifiers connected to allow the absolute value of the representative voltage to be added to the absolute value of the voltage sensor output. ?

31. (NEW) The system of claim 23, wherein said control circuit includes a voltage reference signal generator for comparing against the lamp power. 103

32. (NEW) The system of claim 31, wherein said reference signal generator produces a saw tooth waveform synchronized with the sensed current and twice the frequency of the sensed current. 103

33. (NEW) The system of claim 23, wherein said control circuit includes a current limiting component shunted by an electronic switch in series with the lamp. 103

34. (NEW) The system of claim 23, wherein said control circuit includes a comparator circuit for comparing voltage representing the lamp power to a reference. 102

35. (NEW) The system of claim 34, wherein said comparator circuit controls an electronic switch through an electrically isolated coupler. 103

36. (NEW) A system for controlling power to a high-intensity-discharge lamp said system comprising:

means for determining a voltage across the lamp and a current through the lamp; 102

means for approximating a power to the lamp based on a sum of the lamp voltage and the lamp current; and

means for regulating the power to the lamp based on a comparison of the approximated lamp power to a predetermined value.